

Cookbook of Activities for Driver Education

MT CURRICULUM GUIDE

M16

Objective: Understand the consequences of under-inflated tires

INGREDIENTS

Jumbo size paper clip

INSTRUCTIONS

Give each student one jumbo paper clip. Instruct students to unbend until it creates a six-inch square.

- Place the forefingers and thumbs close to one of the bends near the center of the wire and rapidly flex the wire back and forth.
- As students are flexing the wire, point out that the wire itself is heating up. Students touch the wire to confirm after several moments of flexing.
- Continue flexing the wire until it breaks. Point out that this is an example of internal friction.
- Friction: a force between two surfaces that resists the movement of one surface across the other.
- Friction between the road and tires is called traction; it holds the vehicle on the road. If the tires are not fully inflated, the tires begin to flex back and forth, much like the paper clip. The heat generated is so great it eventually will result in tire failure.

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